THE CHALLENGES FOR EUROPEAN GOVERNMENTS IN ADDRESSING YOUTH UNEMPLOYMENT

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ABSTRACT

The purpose of this paper is to summarize existing literature and findings on the nature and causes of youth unemployment in Europe today, and the role of European Governments in addressing employment issues. The review focuses on four aspects of the issue: the link between youth unemployment and EU structural and behavioral challenges; the dimensions of informal youth employment, including how to define it, what is the extent of it, and to what extent is it taken into account in unemployment data (or is it omitted like data on discouraged workers); structural changes in the nature of industries, labor markets, and global economic competition that are eliminating whole categories of jobs on the one hand, and adding new ones on the other (but not nearly fast enough); and the available evidence that policy measures adopted to date have been effective in addressing these challenges. Finally, some next steps are proposed, including sketching out a survey methodology to address some of the knowledge gaps facing policymakers today.

Keywords *- European Union, Informal, Labor, Market, Policy, Youth Unemployment*

INTRODUCTION

The dramatic rise in youth unemployment across the European Union (EU) is having serious economic and societal consequences and lasting negative effects on the lives of young people. The impacts of youth unemployment and inactivity are destructive in the immediate and long-term; as the lives of unemployed youth unfold they set in motion a series of events that compound the negative economic and societal impact of their employment struggles. Today, the foregone earnings and taxes of unemployed youth further reduce revenue for overburdened governments and pension plans, and force lower expectations of future income levels as unemployed young people battle to overcome the 'scarring' effects of their unemployment. Many young Europeans now face a lifetime of lower earnings, increased risk of future unemployment, poorer health status and well-being, and reduced pension reserves.

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European leaders recognize the urgency to address youth unemployment. Calls for action to ease labor market pressures have received wide public attention, particularly since 2010. With implementation of measures lagging behind, the European Commission is urging Member States to take urgent action.

The purpose of this paper is to summarize existing literature and findings on the nature and causes of youth unemployment in Europe today, and the role of European Governments in addressing employment issues. The literature was selected using manual and electronic searches using the following key words: [youth (un)employment, labor market, minimum wage, (in)formal (economy, sector)] and [Europe (and names of individual countries), education, schooling, European Union, European Commission, policy, recession, crisis]. Web-based searches were conducted on Google, Google Scholar, PAIS International, International Bibliography of the Social Sciences (IBSS), EconLit, and on the websites of Eurostat and International Labor Organization. The team also searched reference lists of key papers, and citation searches of key authors and papers. A sample thought to be representative of this literature was selected from these sources based on a quick scan for relevance and robustness, taking into account ease of access and the short duration of this initial stage of the project. Most selected sources have been published within the last ten years. On this basis, the team tried to determine what is known about European youth unemployment, and what is being done to mitigate it. The literature review focused on four aspects of the issue: the link between youth unemployment and EU structural and behavioral challenges; the dimensions of informal youth employment, including how to define it, what is the extent of it, and to what extent is it taken into account in unemployment data (or is it omitted like data on discouraged workers); structural changes in the nature of industries, labor markets, and global economic competition that are eliminating whole categories of jobs on the one hand, and adding new ones on the other (but not nearly fast enough); and the available evidence that policy measures adopted to date have been effective in addressing these challenges. Finally, some next steps are proposed, including sketching out a survey methodology to address some of the knowledge gaps facing policymakers today.

NATURE AND CAUSES OF YOUTH UNEMPLOYMENT

Young people were undoubtedly hit hard by the recession beginning in 2008. In the EU-28[1] in 2012 the youth unemployment rate was 23 percent, showing that 2 out of 10 young people in the labor force were unemployed with much cross-country variation, ranging from 8.1 percent in Germany to 55.3 percent in Greece for 2012 (Eurostat 2013e). With the Eurozone crisis youth unemployment rates increased from previous already significant numbers. For the EU as a whole they rose by 7 percentage points from 2008 to 2012.

This section briefly recaps definition and measurement of youth unemployment in national statistics; we then examine available data to illustrate its characteristics in the European context followed by a brief review of possible causes.

According to the standard International Labor Organization (ILO) definition the "youth labor force" comprises all persons aged 15 – 24 who are either employed or unem-

ployed over a specific reference period. Unemployment is described as those people who have not worked for even one hour in any economic activity (paid employment, self-employment, or unpaid work for a family business or farm but who are currently available for and actively seeking work, i.e. have taken steps to seek work during a specified period, usually the past four weeks. Data for ILO statistics on unemployment is commonly obtained from household based labor surveys, official estimates and population censuses. The youth unemployment rate, defined as the number of unemployed youth divided by the youth labor force, is a widely available basic indicator of the extent of labor market entry problems for young people.

Despite this fairly unambiguous definition, cross-country differences in measuring youth unemployment can arise as the socioeconomic, cultural and institutional contexts vary markedly across countries. Differences can be found in national systems for defining the labor force; countries have also taken different approaches to who is counted as unemployed and what constitutes an 'active job search'[2]. Variations in unemployment patterns across European countries have been highlighted in a vast body of literature (see Arpaia and Mourre (2012) for a review).

Characteristics of youth in the labor market

The nature of youth unemployment varies from country to country, although a number of features seem to be quite constant in different national contexts. Youth unemployment is higher than adult unemployment for most countries reported by Eurostat irrespective of high or low overall unemployment (see Table 1 below).

The performance of the economy as a whole is perhaps the most critical determinant of youth unemployment; youth employment is high when economic activity is strong and adult employment is high (Freeman and Wise 1982). Clark and Summers (1982) show in times series analysis using U.S. annual and monthly data for the period 1948-1977 that each one-point decrease in adult-male unemployment increases employment of young men (16-19) by about 4.5 percent, implying "tremendous responsiveness of youth employment to aggregate demand". Choudry et al. (2012b) see the "high diffusion of temporary contracts" among youth as an important factor in explaining the increased sensitivity to GDP decline. Youth continue to face a comparatively more disadvantageous labor market situation. ILO (2013) reports that globally the youth to adult unemployment ratio has hardly changed in recent years and stands at 2.7 in 2013.

Table 1: Unemployment rate by age groups - annual averages, 2012, %

	Less than 25 years	From 25 to 74 years	Total
European Union (27 countries)	22.8	9.1	10.5
Belgium	19.8	6.4	7.6
Bulgaria	28.1	11.0	12.3
Czech Republic	19.5	6.0	7.0
Denmark	14.1	6.3	7.5
Germany	8.1	5.2	5.5

Estonia	20.9	8.9	10.2
Ireland	30.4	12.9	14.7
Greece	55.3	22.2	24.3
Spain	53.2	22.7	25.0
France	24.6	8.7	10.3
Italy	35.3	8.9	10.7
Cyprus	27.8	10.2	11.9
Latvia	28.4	13.5	14.9
Lithuania	26.4	12.1	13.3
Luxembourg	18.0	4.2	5.1
Hungary	28.1	9.6	10.9
Malta	14.2	5.0	6.4
Netherlands	9.5	4.5	5.3
Austria	8.7	3.6	4.3
Poland	26.5	8.5	10.1
Portugal	37.7	14.0	15.9
Romania	22.7	5.6	7.0
Slovenia	20.6	7.9	8.9
Slovakia	34.0	12.2	14.0
Finland	19.0	6.1	7.7
Sweden	23.7	5.7	8.0
United Kingdom	21.0	5.7	7.9
Norway	8.6	2.3	3.2
Croatia	43.0	13.2	15.9
Turkey	15.7	6.7	8.1
United States	16.2	6.8	8.1
Japan	8.1	4.0	4.3

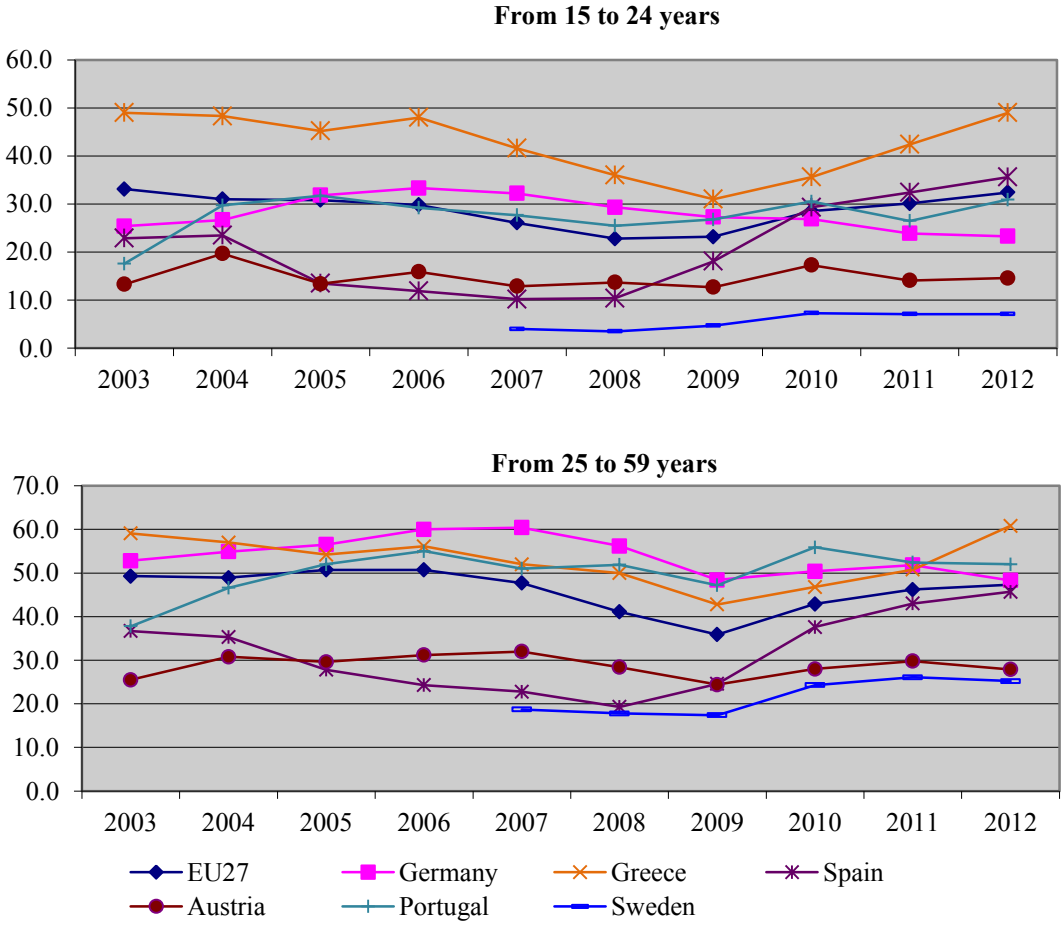
Source: Eurostat (2013e)

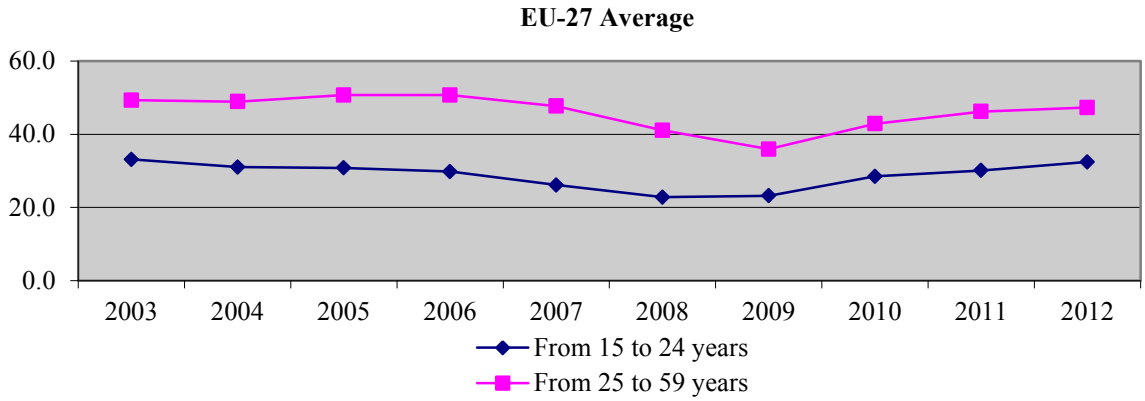
Note: Germany (until 1990 former territory of the Federal Republic of Germany)

Another argument often presented is that young people tend to be unemployed for shorter periods than their older counterparts, even if youth unemployment rates are higher overall (see Leighton and Mincer 1982). In this sense youth unemployment would reflect the transitional phase in peoples' lives that will be overcome and be replaced by more permanent employment. Available data shows that long-term unemployment is indeed higher as a percentage of the total unemployed for adults from age 25 to 59. However, looking at trends over time (Figure 1), we see that both adult and youth long-term unemployment have increased, in some countries significantly, since the beginning of the recession in 2008-9[3].

Beyond the experience of longer joblessness, prolonged spells of unemployment at the beginning of a young person's professional working life can lead to serious long-term problems. Mroz and Savage (2006) find a large and persistent negative effect of prior unemployment on future earnings. A six-month spell of unemployment experienced at age 22 would result in an eight percent lower wage on average at age 23 and even for ages 30 and 31 they find wages two to three percent lower than they otherwise would have been. For young graduates entering the labor market during a recession Oreopoulus et al. (2012) identify the "initial reduction in employer quality" as a factor causing earning losses and a permanent increase in inequality as job search intensity and mobility is higher for high-skilled than for low-skilled workers. If this leads to lifetime earnings at the bottom of the socioeconomic ladder, research shows they will be three times more likely to die prematurely as those at the top, and more likely to contract depression, heart disease and diabetes[4] (Velasquez-Manoff 2013). In addition, as unemployment rates increase, crime rates tend to rise, especially property crime (Bell and Blanchflower 2010). O'Higgins (2001) highlights that joblessness among the young is linked to crime, drug abuse and vandalism and that high levels of youth unemployment are likely to lead to alienation and social unrest.

Figure 1: Long-term unemployment (12 months or more) as a percentage of the total unemployment by age, selected EU countries, 2003 – 2012, %

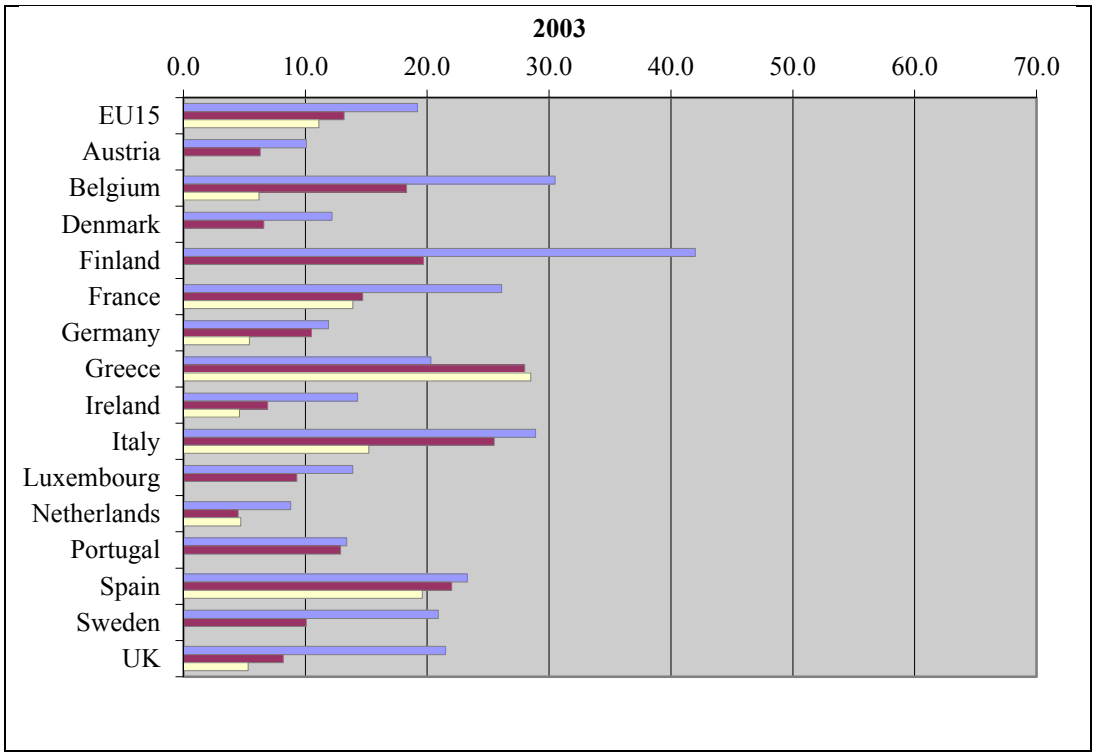


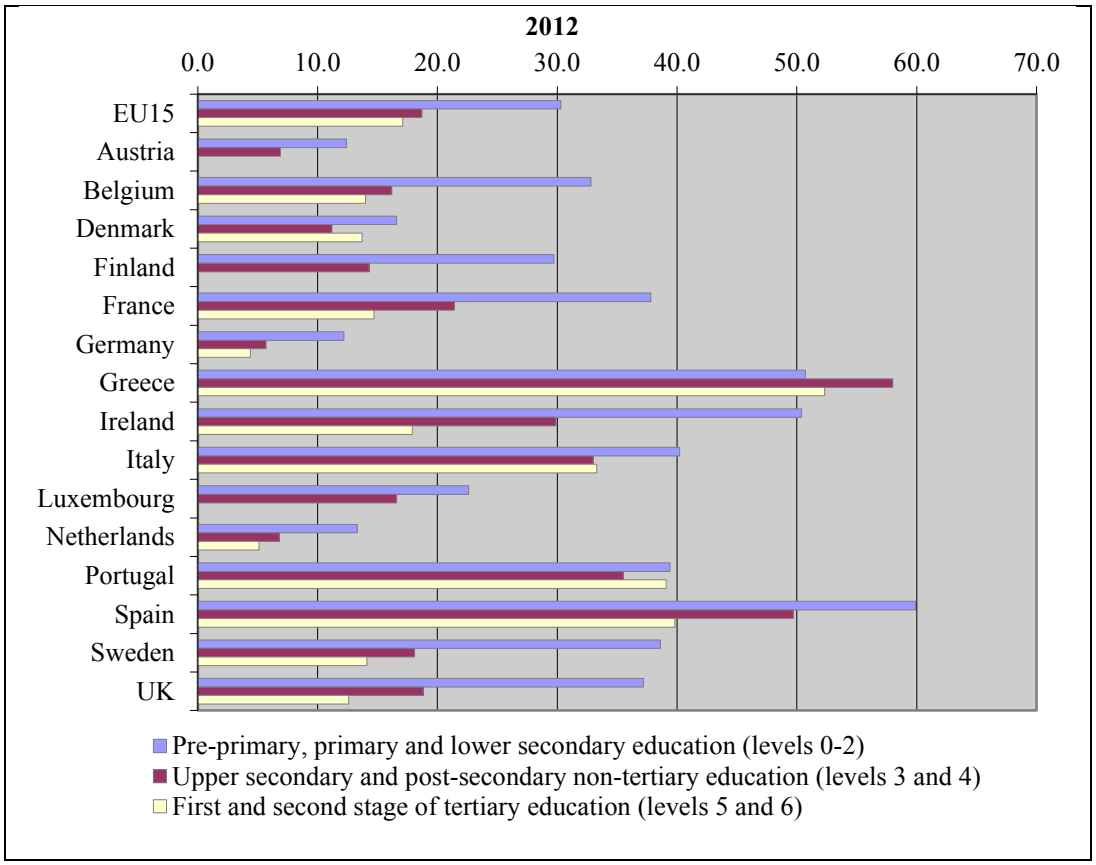


Source: Own presentation, data from Eurostat (2013g).

The prospects of youth in finding a job are typically linked to their educational attainment. Overall education levels for the EU-27 countries have increased on average, though there is much variation across the region in specific education patterns. For most of the EU-15 countries presented, youth unemployment rates fall as level of education rises, see Figure 2 below. Notable exceptions are Greece and Portugal in 2012 where unemployment rates of those with tertiary education exceed or match the rates of youth with primary/lower secondary education. But also Denmark and Italy are worth noting, where the unemployment rate for youth with tertiary education exceeds the rate recorded for persons with upper secondary education[5].

Figure 2: Unemployment rate by highest level of education attained, age group 15-24, 2003 and 2012, %





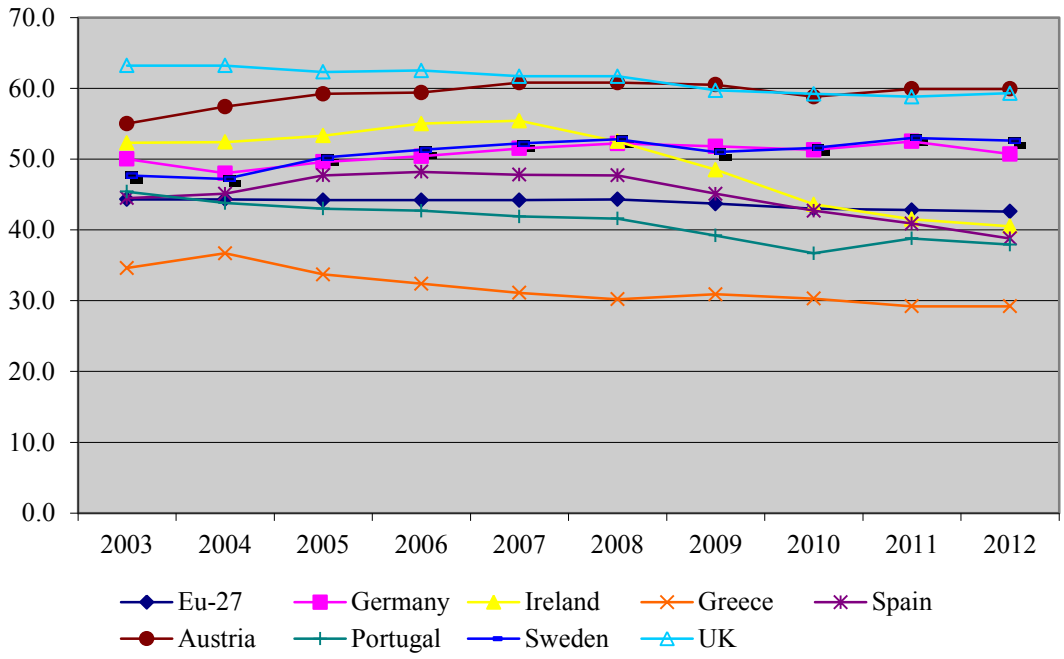
Source: Own presentation, data from Eurostat (2013f)

In addition to employment numbers, data is available to quantify the proportion of persons in a certain age group that participate in the labor force. This 'activity rate' computed by Eurostat for those in age group 15 to 24 years has decreased between 2003 and 2012 in almost all countries in the European Union, with a few notable exceptions, mostly for transition countries, but also Austria and Sweden where activity rates have gone modestly up during this period (see Figure 3). In Germany activity rates for youth also remained relatively constant over this period.

Declining youth activity rates could indicate higher school enrollment among the young. Indeed, the share of the population that has successfully completed university or university-like education by age 30-34 years has increased in recent years for most of the EU-27 countries. O'Higgins (2001) points out that high youth unemployment reduces the opportunity costs of staying in education and a highly developed education and training system can even lead to a reduction in the relative level of youth unemployment simply by taking young people out of the labor force. In a study of educational spending in Germany since the mid 1970's Plümper and Schneider (2007) argue that increasing the number of students may provide an "attractive policy instrument for governments in fighting high unemployment". With governments having authority over allocation of available university places enrolment numbers have increased over the last decades with the share of higher education budgets to total budgets declining (ibid). The authors find the resulting decline in university spending per student to be larger in states with relatively high unemployment. Another explanation for dropping labor force participation

could be changes in the number of discouraged workers that do not believe that there is work and are thus not registered as job seekers. The number of people working exclusively in the informal sector without collecting unemployment benefits would also affect activity rates.

Figure 3: Activity Rate (15 to 24 years) for selected EU members, 2003 – 2012, %



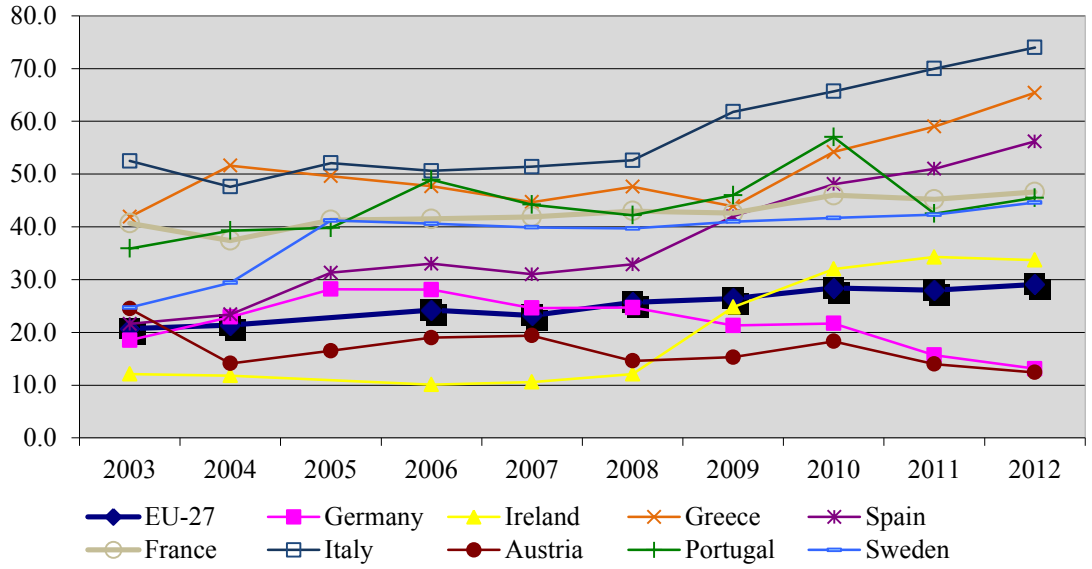
Source: Own presentation from Eurostat (2013b)

Employed young people are more likely to hold part-time jobs than adults. In 2012 the share of part-time employment in the EU-27 made up 31.1 percent of total employment for the 15 to 24 year-olds, significantly higher than the 18.1 percent part-time employment for their adult counterparts. While there may be many reasons especially for young people to choose part-time employment, including furthering their education, available data shows that in many countries the majority of young people working part-time jobs do so involuntarily. The share of young people working part-time because they are unable to find full-time work displays high cross-country variation in the EU-27, with numbers for 2012 ranging from 4.1 percent in Slovenia to 74 percent in Italy, see Figure 4. Seven countries in the EU-27 experienced an increase of more than 20 percentage points, in the case of Spain almost 35 percentage points, in the share of young people that work part-time because they can't find full-time employment between 2003 and 2012.

Involuntary part-time employment is one approximation to understand situations of insufficient volume of work beyond the scope of the traditional unemployment rate. The European Commission's Eurostat has recently started to release new indicators to supplement the unemployment rate and to "provide a more accurate picture of the labor market" (Eurostat 2011a and 2013j). The incidence of involuntary part-time work does not tell the whole story; it would be interesting to better understand the extent of the

potential additional labor force within this group. It has been argued that in advanced economies informal employment occurs more often partially, with workers having some attachment to the formal labor market. In this context it would be interesting to identify how involuntary part-time work and informal employment relate[6].

Figure 4: Involuntary part-time employment as percentage of total part-time employment, 15 to 24 years, %



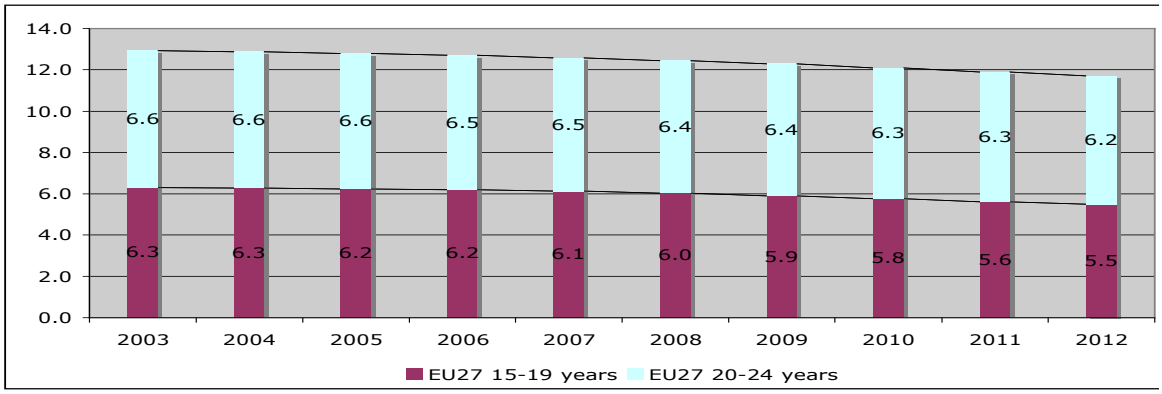
Source: Own presentation, data from Eurostat (2013h)

Note: No data was available for EU-27 and Ireland for the year 2005, chart line shows interpolated values for 2005.

What Long-term Trends Are Affecting Youth Labor Markets?

Pressure on the labor market for youth might simply result from an increased youth population, causing relatively higher unemployment rates for this age group. O'Higgins (2003) discusses global trends in the youth populations and finds that while they grew continuously since 1950, the proportion of young people relative to the total population has been falling in Europe, Latin America and the Caribbean, North America and Oceania since 1980, and in Asia since 1990. Indeed Figure 5 below shows a slight downward trend in the proportion of youth relative to the total population in Europe between 2003 and 2012. Sharply declining birth rates from the 1960s up to the beginning of the 21st century contributed to this development.

Figure 5: Youth Population, EU-27 average, 2003 – 2012, %



Source: Eurostat database

O'Higgins (2001) estimates the effect of population size on unemployment for the subgroup of young adults (20-24 years) and finds that effects of adult unemployment completely dominate youth population share as driver. Shimer (2001) finds that an increase in the youth share of the working age population reduces the youth unemployment rate, analyzing almost two decades, from 1978 to 1996, of U.S. annual state unemployment data to estimate the impact of changes in the youth share of the population on unemployment rates. His explanation points to more flexibility in an overall younger labor market, which increases job creation. While certainly an important factor, changes in the size of the youth population can therefore not be linked directly to specific labor market outcomes. The picture might also vary by sectors and it would be interesting to uncover the impact of population size on different segments of the economy.

Labor market institutions are likely to impact employment dynamics for youth differently than for their adult counterparts. Assuming different levels of productivity for newcomers and experienced workers, rigidities in labor market regulation might cause negative relative employment effects for youth. Blanchard (2006) suggests that while there is large heterogeneity of unemployment rates across the EU15, it is true for all countries that high unemployment tends to be more pronounced for young workers. To the extent that labor market institutions can be linked to labor market outcomes youth might therefore be disproportionately affected.

However, evidence on decisive impact of institutions such as unemployment insurance, employment protection and minimum wages on overall employment rates is mixed. While Scarpetta (1996) states that institutional mechanisms of wage determination matter for the level of structural unemployment, Machin and Manning (1999:12) highlight that no time-series model has managed to explain the rise in unemployment since the 1960s without using "some arbitrary dummy variables or time trends, which account for a large part of the explanatory power". The more recent review by Blanchard (2006) points out that while many correlations have been explored through panel data regressions "they are unlikely to tell us which combination of shocks and institutions is responsible for unemployment".

Examining relative wages in determining youth unemployment more closely, Neumark and Wascher (2003) analyze the impact of minimum wage on youth employment rates

in 17 countries and find mixed results; in some countries with high minimum wage ratios youth labor market conditions seem to be poor (examples are France and Italy) while in others employment rates are relatively high (e.g. Denmark and Germany). They find the positive correlation between minimum wage ratio and youth unemployment to be small. Bernal-Verdugo et al. (2012) employ an index of labor market flexibility in their analysis of data for 97 countries over the period 1980-2008 and find youth unemployment to react more strongly to changes in labor market institutions than total unemployment. Their results indicate that strict hiring and firing regulations may adversely affect youths' job entry prospects but the flexibility of the wage bargaining process does not have a statistically significant effect. While the findings of Freeman and Wise (1982: 3) generally support the view that increases in the minimum wage reduce youth employment, they also point out that "some of the characteristics associated with lower employment appear to be unrelated to wages". An example given is that youths from poor families tend to be employed less often but earn the same wage as youth from wealthier families once employed.

It should further be noted that often adjusted provisions exist, typically aimed at offering more flexibility when hiring youth, such as lower minimum wages. On the supply side in many OECD countries school-leavers are not eligible for unemployment benefits unless they have worked a certain period of time. Job entry problems for the young need to be understood beyond overall wages and incentives per age group by taking into account a more complete set of data points including sector specifics and changing skill requirements[7].

Looking at the impact of a country's macroeconomic performance on youth unemployment, Scarpetta et al. (2010) finds that across the OECD a 1 percentage point deviation from the growth rate of potential GDP in the period 1996-2007 caused a 0.65 percentage point change in the adult employment rate but a 1.4 percentage point change in youth unemployment rate; however, since the baseline youth unemployment rate is 2/7 higher than the adult rate, the impact of changes in growth is not much different[8]. This is surprising because of the disproportionate presence of youth among those holding temporary jobs and their high concentration in certain cyclically-sensitive industries such as construction It has also been argued that young people tend to change jobs more frequently than adult workers, especially in the beginning of their career during a period of "job-shopping" to find the best match to their skills and are therefore be more affected by reductions in new job openings (Quintini et al. 2007). While macroeconomic conditions matter and largely determine unemployment rates, O'Higgins (2001) points out that countries operating dual apprenticeship systems, such as Germany, have done better in maintaining low levels of youth unemployment. On the other hand, this statistical result could come from different measurement systems in different countries. A strategy is needed in comparing country statistics to ensure that issues such as job training practices are handled in a common manner[9].

The changing structure of labor demand may be another factor impacting youth's prospects on the labor market. Autor, Levy and Murnane (2003) explore how computer technology alters job skill demands, using representative data on job task requirements over 1960-1998 in the U.S. They find that industrial changes, mainly towards computer-

ization, have led to large relative increases in the share of jobs requiring non-routine and analytic tasks, which explains an observed substitution for college-educated workers. Mills and Blossfeld (2005) argue that in a globalized, knowledge-based society youth with lower education, weak occupational standing or lacking experience will feel the impact of globalization the most. With globalization intensifying competition, nation states take measures to increase the functioning of the labor market through deregulation and liberalization leading to a greater emphasis on coordination based on price mechanism. Country-specific institutional settings and social structures then determine the extent to which youth is exposed to global economic influences. In 'open employment relationship' systems where market mechanisms are central (e.g. United States, Ireland, U.K.), Mills and Blossfeld (2005) suggest that there are not only lower wages and more precarious employment situations, but also unemployment of shorter duration, especially for the young. For closed employment relationships where centralized procedures for wage negotiation are present, precarious employment is concentrated in specific groups and a more problematic entry in the labor market (ibid.).

INFORMAL EMPLOYMENT

This section will begin with brief summaries of the definition, theory, and measurement techniques of informal employment, then turn to examine some of the affects that the informal economy has on both the formal economy and on informally employed individuals, signaling the need for improved knowledge and research about the informal sector.

Definitions of informal employment differ widely in the literature and data on participants in the informal labor force is relatively scarce. Informal employment is widely defined as the production and sale of goods and services that are licit in every sense other than that they are unregistered by or hidden from, the state for tax, benefit and/or labor law purposes (ILO, 2003: 48-9).[10]

Recent literature points out that informal employment was thought to be a leftover of a previous era of production that would disappear once countries achieve sufficient levels of growth and industrial development.[11] Many believed that the expansion of mass production and large corporations would provide most workers with standard jobs offering benefits and social protection and it was not until the 1980s that the discussion of informal economic activities expanded to include advanced economies. The need for flexible markets in advanced capitalist economies resulted in new patterns of production including reorganization into small-scale, decentralized and more flexible units, all of which are associated with the "informalization of employment relations" (ILO 2002). In the 1990s an increasingly globalized economy generated new markets and opportunities but not all the jobs created were "good" jobs. To keep up with increasing global competition, formal firms find incentives to hire workers at low wages and to cut benefits or to sub-contract, therefore weakening employment relations (ibid.).

Estimating the size of the informal economy is inherently difficult. First, a definition for the informal economy must be presented. Then the estimation can be carried out either through micro-level surveys or macro-level estimation of the latent variable of the size

of the informal economy by using measures of money demand and so forth (Schneider and Buehn 2012; ATKearney et al. 2013; Schneider 2013). [12] These measures of the informal economy are often broad estimates that result in little certainty about its characteristics.

How does the informal economy affect statistics about the formal economy?

Statistics about the formal economy are often affected by the informal economy and, because there is no exact measure for the size of the informal economy (and thus its effect on the formal economy), these statistics may be misleading. For example, unemployment rates reflect labor statistics based only on the formal economy. Employment figures do not reflect the informal employment of individuals who are employed solely in the informal sector. This discrepancy can lead to an over-exaggeration of the real level of unemployment. In Spain, for example, economists believe that the unemployment rate of 24.4% is 5-9 percentage points too high due to the exclusion of the informal economy (Minder 2012).[13] A better understanding of the informal economy and its size will improve the accuracy of some statistics of the formal economy, such as unemployment.

How does informal employment affect youths?

While empirical evidence for involvement of youth in the informal sector is still not comprehensive, O'Higgins (2003) believes that youth is most likely disproportionally represented in this sector and that similar considerations are in order for the occurrence of underemployment. He argues that because young people are disproportionately represented amongst job seekers, one would expect a correspondingly high proportion of young people amongst informal sector workers. If we assume that informally employed youths would prefer to be employed in the formal sector, they are being subjected to poor quality employment with worse working conditions, lower wages, no benefits, and a high turnover rate. Conversely, it is possible that some youths may prefer to work in the informal sector. Flexible working arrangements may appeal to some youths, such as students, who are not currently seeking long-term employment. What is the effect of informal youth employment on future employment prospects? This question is difficult to answer because of difficulties in measuring and defining informal employment. Because informally employed youths are counted as unemployed by traditional measures of unemployed, the findings of Mroz and Savage (2006) may be relevant once again. They estimated that the effect of a six month spell of unemployment at 22 was an 8 percent lower wage at 23 and a negative impact on long-term earnings. Because a large number of informally employed youths are counted as unemployed, this study suggests that informal employment as a youth negatively affects future wages. On the other hand, an alternative argument might be that the impact of unemployment might have been even larger if some of the unemployed had not been informally employed[14]. A better understanding of the informal economy could give researchers and policy makers more knowledge about the nature of informal youth unemployment.

Tools to better understand informal economies

With very little known about the characteristics of the informal economy in developed countries, the literature motivates recommendations for more research into economic informality with seemingly basic questions. The ILO (2002) asks *How can one predict and model economic performance if a large share of total output is not adequately measured?* and *How can one predict and model labor market behavior if a major segment of the total workforce is not adequately measured or understood?* Williams and Windebank (2003) wonder *Why does informal employment exist?, Is it growing or declining in advanced economies?,* and *What character does informal employment have? Who engages in informal employment? Is it always low paid or is there chance to have high-paid fulfilling jobs in informal economy?* Answers to these questions likely differ between countries and require a better understanding of the informal economy before they are answered. Recently, new ways of thinking have been developed to improve understanding about the informal economy.

School-to-Work Surveys and new statistical measures introduced by the International Conference of Labor Statisticians are useful tools to start answering some of the questions posed above in the context of developing countries. This work is usually done following the commonly accepted criteria describing informal enterprises and informal employment as outlined in Annex 8.

While the international statistical definition of informal employment serves as a useful basis, a number of additional considerations have been discussed recently when looking at advanced economies. Venn (2008) points out that in the context of developed countries knowledge about the types of informal employment seems more relevant than aggregate estimates. Partial forms of informality might be more important than fully informal jobs in order to capture the proportion of the labor force working some hours for cash but are otherwise engaged in formal firms.

Enterprises operating outside the regulatory sphere in advanced economies are more likely to be hidden in developed countries than in developing countries (Carre and Heintz 2013). This raises the question whether existing survey instruments are equipped to measure informal self-employment in developed countries. Furthermore, while used as an indicator of vulnerability in developing countries, own account self-employment is more likely to include professionals in the case of developed countries. False self-employment is also an issue much more common to developed countries, where workers would fit the criteria of wage employment but are treated as self-employed to avoid social security payments.

Carre and Heintz (2013) emphasize the discussion of "non-standard" employment in addition to informal employment for advanced economies, where non-standard frequently refers to employment arrangements that are "short-term and contingent in nature". Measuring the relative extent of voluntary and involuntary non-standard forms of employment would be an important contribution to the understanding of employment structures in developed countries.

Given the significant variation in legislatively mandated social protection across developed countries, the question of which measure is most relevant when defining informal

employment arises. The authors suggest a distinction between *de jure* and *de facto* informality. In particular in developed countries actual employment conditions may not include basic social and legal protections even though current labor law and legislation guarantees such protection (ibid.). A number of "markers" to capture dimensions of de facto informality in developed countries are proposed, including among others health insurance, unemployment insurance, paid time off and unemployment insurance. Venn (2008: 1) suggests that informal employment be any employment "engaged in the production of legal goods and services but where one or more of the legal requirements usually associated with employment are not met", including for example employees not registered for mandatory social security and those paid less than the legal minimum wage.

The informal economy is difficult to define and even more difficult to measure. Because of the lack of information about the informal economy, formal labor market statistics are misleading and labor outcomes are worsened for some individuals, especially youths. By utilizing the tools discussed in this section, researchers and policy makers can better understand the informal economy, which could lead to improved labor outcomes in both the formal and informal sectors.

EFFECTIVENESS OF GOVERNMENT POLICIES TO REDUCE YOUTH UNEMPLOYMENT

European governments have supported a wide range of policy initiatives to address youth unemployment. To achieve maximum impact, it is crucial not just to design and implement such policies, but to monitor and rigorously evaluate them (cf. IEG, 2013). However, it is difficult to identify the effect that one specific policy or institution has on youth unemployment. The impact of government policy on unemployment is generally measured by one of two methods. The first is cross-country analysis, which looks at a sample of countries and empirically estimates the effect that individual policies have on the unemployment rate of the country. This method is enabled by the ease of collecting macro labor market data across multiple countries. Macroeconomic labor market data aggregates the employment status of an entire population of individuals, resulting in the ability to only make statements about the labor market as a whole. An example of a finding from a cross-country analysis is that "the precise impact of a given policy reform appears to vary depending on the institutional context, tending to be greater the more employment-friendly the overall policy and institutional framework." (OECD 2006: 209) Restated more generally, a cross-country analysis could report that a country with a given government policy should expect lower unemployment, ceteris paribus. While this approach may be useful in determining the causes of unemployment at the macroeconomic level, researchers and policy makers want to know the effect that a specific policy has on reducing the probability that an individual remains unemployed.

The second method of policy impact evaluation requires extensive micro-level data. This method has drawbacks similar to those of the household survey approach to measuring the informal economy, as measuring the impact of policies in this way is inherently more difficult because quality data is not easily accessible and it requires a control and treatment group, which can be challenging to clearly define. The ALMPs of EU

countries deal with the issue of youth unemployment at the individual level and some of these policies collect the data necessary for measuring the outcomes of specific policies. For example, a 2003 paper shows that the Youth Unemployment Program in Denmark significantly raised the transition rate from unemployment to schooling for youths. (Jensen et al. 2003) Although this result is notably different from, say, the transition rate from unemployment to employment, it is insightful because, as previously noted, students in Demark have a very high participation rate in the labor market. A more recent study of youth unemployment in Denmark by Van den Berg et al. (2012) finds that the first face-to-face meeting between an unemployed youth and a caseworker increases the probability of exit to employment by 23 percent in the subsequent week. The study finds continuous benefits of meeting caseworkers, especially for youths. In Austria, despite high dropout rates, about 58 and 63 percent of young people who participated in the apprenticeship program in 2010 were integrated into the labor market after 3 and 12 months, respectively (Choudhry et al. 2012a). A 2011 study shows that unemployed young people in Sweden who participated in the Youth Job Programme in 2008 were able to find a job faster than those who did not participate (Gerdes, 2011). While the results do not hold for the entire program duration, this study presents a good example of the type of information that micro-level evaluations are able to produce. All three studies are able to establish a causal linkage between specific government policies and improved labor market outcomes for individuals. For Austria and Sweden, successful youth ALMPs may have contributed to improved youth labor market activity rates over the past decade. Although the examples of Denmark, Austria, and Sweden show the outcomes delivered by government policies geared towards reducing youth unemployment, these examples are not robust enough to be used as evidence to support ALMP reform. To make labor market policy reforms, policy makers require robust findings that present a quantitative measure of the impact that government policy has on unemployment.

The best example of government policy directly affecting youth unemployment rates in the EU comes from Germany. As previously stated, Germany's youth unemployment rate in 2012 of 8.1 percent represents the lower bound for EU member countries. Consistent low levels of youth unemployment, even through the global recession, have led to examination of Germany's ALMPs. Caliendo, Kunn, and Schmidl (2013) conducted an empirical analysis on the ALMPs of Germany to better understand the specific policies that affect youth unemployment rates. The German labor market is a prime candidate for analysis because there are a variety of programs and high quality data is easily accessible. The result is an estimate of the impact of seven ALMPs on the probability that an unemployed youth obtains employment. On the labor supply side, the research look at job search monitoring (JS), short-term training programs (STT), job creation schemes (JCS), and further training programs (FT). On the labor demand side, it examines the effects of wage subsidies offered within the Social Act III (WS), wage subsidies offered in the JUMP program (JWS), and practical training measures (PT)[15]. The sample is comprised of all German youths (age 15-24) who became unemployed in 2002. The research tracks their usage of government ALMPs as well as their employment status for six years. Because all unemployed youths in Germany are eligible to participate in the ALMPs, there are naturally occurring treatment and control groups. Quality data

allowed separating individuals by geographic location (East/West) and by education level. The finding is that all programs except JCS and PT improved labor market prospects, with long-run increases in the probability of being employed between 5 and 20 percentage points depending on the program and region. JWSs in West Germany were the most impactful, with an increase in the probability of being employed of 20 percentage points. Participation in WS and FT programs led to an increase in employment prospects of around 10 percentage points. Due to the short-term nature of JS and STT programs, many participants in these programs were simultaneously participating in other ALMPs. Because of simultaneous participation, the authors point out that their estimates for the impact of JS and STT programs may actually be picking up the effects of other longer-term programs. JCS and PT programs were shown to have no benefit in the long-run and to negatively affect the probability of finding employment in the short-run.

What should policy makers make of these findings? It is important to remember that these policies cannot simply be cloned and implemented in other EU nations to solve the youth unemployment crisis. Geographical differences just within Germany led to varying degrees of effectiveness of policies in East and West Germany. Applying these policies across different countries would give rise to further complications that are not represented within this study. Policy makers should treat these findings as the basis for a discussion of labor market policy reform. The discussion must take into account country specific factors in deciding whether German style ALMPs are suitable. For example, Cahuc et al. (2013) compare French and German labor markets, drawing from the findings of Caliendo et al. (2013) to arrive at a set of policy recommendations to remedy the high level of French youth unemployment. These policy recommendations are specifically tailored to the French labor market, taking into consideration macroeconomic conditions, demographic issues, and current policies. Policy makers in the EU region should follow this example as they make reforms to tackle issue of youth unemployment.

Evaluating the effectiveness of government policy on youth unemployment is an inherently difficult task. Cross-country analyses aggregate labor market data, making it difficult to tease out the effect of one specific policy and research that uses micro-level data is frequently plagued by a lack of quality data and inconclusive results. Despite these issues, some researchers have successfully evaluated the effectiveness of government policy on reducing youth unemployment. Policy makers should draw on quality evaluations of successful programs from other EU nations when proposing labor market policy reform, while keeping cross-country differences in mind. It is further worth noting that most ALMP measures may often not be available to youth that are inactive or to those in involuntary part-time employment that are not registered as seeking a full-time job. Going forward, research should be done that incorporates the high costs of ALMP to find the programs that are most cost effective in reducing youth unemployment. In addition the evaluation of strategies to reach persons outside the labor market that are available for work ought to receive more priority. The relationship between labor market polices and the quality of employment created should also receive more attention. The literature could also benefit from an analysis on ALMP during the global recession and subsequent recovery.

It is important to understand which specific outcomes government measures aim for. Unemployment and underemployment is involuntary for the most part and lack of demand is likely to be the main issue in this current recession. Reducing unemployment and increasing quality employment can be two very different indicators and thus require government policy featuring very different elements. Similarly, focusing on specific groups among the unemployed calls for an adjusted selection of tools from the policy menu. As the discussion above shows the labor market does have a dual nature with youth suffering disproportional from economic shocks and more generally penalizing those with less experience and education. As the discussion above shows for most of the EU-15 countries youth unemployment rates tend to fall as level of education rises. Preventing young people from dropping out of school results as an important policy objective. In addition, encouraging longer schooling periods may help to ensure that youth enter the job market with a required minimum skill level (Scarpetta et al., 2010). An example for the implementation of such measures is the Netherlands where since 2007 a law requires all youth to attend school or a combined school and work program until their 18th birthday or until they receive a diploma for at least five years of secondary education. At the same time the underlying difficulties young people face in the transition from school-to-work have been exposed to a great extent by the 2008/-09 recession. Both, the pre-crisis level of youth unemployment and the evolution since are marked by significant cross-country variations within the region. There is scope for more in-depth analysis of country specific determinants of unemployment and specifically youth unemployment.

While progress has been made in our understanding, we still lack sufficient data points to determine the full extent of the gap between demand and supply on the labor market. Europe is confronted with the fact of unemployment, yet as far as those detached from the formal labor market are concerned we know very little about what alternatives are being sought and how people are coping. In addition to available data on discouraged and inactive persons, more research into informal employment and its composition in the European context is needed.

The geopolitical issues surrounding youth unemployment also need to be better understood. As discussed above, the pattern of youth unemployment is highly uneven, with three countries, Germany, Austria and Netherlands below ten percent, and the other EU members with generally much higher rates up to over 55 percent in Greece. While there are many reasons for this disparity, one is an unusual feature of the EU: that it is a free trade area built around a dominant exporter, Germany, that depends on exports for 51 percent of its GDP, with more than half of its exports going to other European countries. This arrangement is supported by common economic and monetary policies across the EU. Looking forward, it is likely that there will be political pressure to change the overall policy framework to begin to reduce inter-country disparities. The rise of political movements such as Five Star (winning 25 percent of the vote in a recent Italian election), Golden Dawn in Greece, and the Catalan independence movements all indicate increasing support for redefining the current system. What some of the alternative models might look like, and how ALMPs would most effectively support such changes, needs further work (Friedman, 2013).

CONCLUSION AND NEXT STEPS

This paper has presented the initial findings of a literature review on the nature and cause of youth unemployment in Europe today, and the role of European Governments in addressing employment issues. EU youth unemployment was 23 percent in 2012, up 7 percentage points since 2008. We examined the wide differences across countries, and the challenges in estimating an overall average, due to different statistical practices across the EU. We also examined the causes of this situation, including structural changes in the nature of industries, labor markets, and global economic competition that are eliminating whole categories of jobs on the one hand, and adding new ones on the other (but not nearly fast enough).

Informal employment is affecting a part of the working population that is not typically captured in employment or unemployment numbers, along with putting downward pressure on wages for those employed. Estimating the size of the informal economy is inherently difficult. While empirical evidence for involvement of youth in the informal sector is still not comprehensive, youth are most likely disproportionally represented in this sector, as well as in measures of underemployment.

Youth unemployment is driven mainly by the performance of the economy as a whole, but also affected by other factors such as education. While young people tend to be unemployed for shorter periods than older workers, in recent years more unemployed youth are without a job for a long time. Beyond the experience of longer joblessness, prolonged spells of unemployment at the beginning of a young person's professional working life can lead to serious long-term problems. Changes in the size of the youth population can not be linked directly to specific labor market outcomes. Further research is needed to uncover the impact of population size on different segments of the economy.

It is difficult to identify the effect that one specific policy or institution has on youth unemployment. The best example of government policy directly affecting youth unemployment rates in the EU comes from Germany. An impact evaluation found that five out of seven programs improved labor market prospects, with long-run increases in the probability of being employed between 5 and 20 percentage points depending on the program and region. However, it is important to remember that these policies cannot simply be cloned and implemented in other EU nations to solve the youth unemployment crisis. More work is needed on how these policies might be adapted in other contexts. In addition, more research is needed on the cost effectiveness of these and alternative policy options.

In moving forward, the next step will be to widen the scope of the literature search. The team will identify key staff in organizations carrying out data collection and research on

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European youth unemployment. Staff will be targeted who are thought to be knowledgeable on the issues surrounding the topic, worked with organizations who fund analytical work in the area, and whose work has been influential in youth unemployment policy development and evaluation. A list of all the potential informants identified through these means will be asked if they would be willing to share their knowledge on the topic, including relevant information that might not be readily available to the public. These individuals will also be asked to provide feedback on the team's initial findings. The initial contact will be by email, with follow up meetings by teleconference and in person when possible.

The team will then prepare a comprehensive list of all studies that are thematically focused on European youth unemployment, including both the new studies identified in the above process, and the ones discussed already in this paper. The team will then screen the entire list based on criteria that insures that the final data set includes only the most relevant and methodologically rigorous evaluations and analytical reports. The reason for this is that many of the search results are reports issued by international organizations and governments which may not have been subject to careful peer review, and could be biased toward expected outcomes. To address this, relevant documents will be assessed to ensure there use structured review methods, and present credible sources of data on which findings are based. Studies providing only general commentary, and those without evidence of careful research methods, will be excluded. The team will also endeavor to search for studies in French, Spanish, Italian, Greek, and other European languages[16].

This wider literature search will undoubtedly identify additional gaps in knowledge, and suggest approaches for addressing them. One gap already apparent where future work is needed is to better understand the nature of informal, youth employment. Identifying workers who have undeclared income is difficult, possibly even more so in developed countries where informal work is often hidden. Household-based surveys, possibly conducted through personal interviews might be the most promising option to look in more detail at the dynamics and segmentation within informal employment in developed countries. Designing and implementing specific surveys on informal employment requires consideration of the socio-economic framework of each country. The interviewer will have to propose questions to the respondent following a set of filtering rules to identify her/him as belonging to the informal economy. Survey design should take into account local processes for unemployment registration and social benefit administration to filter questions accordingly.

NOTES

[1] Eurostat reports an unemployment rate of 22.8 percent for EU-27 in 2012 for the age group of less than 25 years; Croatia joined the EU on July 1st 2013 and reports a youth unemployment rate of 43 percent for 2012.

[2] For more on definitions, see Annex 1

[3] For more on duration of youth unemployment, see Annex 2.

[4] It is possible that youth unemployment may in some cases be the symptom of deeper problems that are causing the long run results observed.

[5] For more on youth unemployment and education, see Annex 3

[6] For more on youth employment and the quality of work, see Annex 4.

[7] For more on the effect of labor market institutions on youth employment, see Annex 5.

[8] The elasticity for a 1 percentage point deviation from the growth rate is 0.65/9.1=0.071 for unemployed in the age group 25 to 74, while the for youth unemployed is 1.4/22.8=0.061. Thanks to an anonymous reviewer for pointing this out.

[9] E.g. An apprentice in Germany is generally paid by his employer and counted as employed, and in the workforce. In Sweden, the same type of worker might be attending vocational training instead, and counted as unemployed.

[10] See Annex 6 for a discussion of the different definitions of informal employment, informal sector, shadow economy, and unobserved economy

[11] See ILO (2002) and Gerxhani (2004) for a discussion of discovery and early debates regarding the informal economy.

[12] See Annex 7 for a discussion of informal economy measurement techniques

[13] It is of note that many people who hold jobs in the formal economy also have part-time jobs in the informal economy. These people are counted as employed in the formal economy but also contribute to the size of the informal economy. Participants in the informal economy will be counted as unemployed if they do not have a formal job, but are actively seeking employment in the formal economy. Participants in the informal economy will be counted as discouraged workers if they do not have a formal income and are not seeking employment in the formal economy

[14] Thanks to an anonymous reviewer for this point.

[15] See Annex 9 for further description of German ALMP

[16] This approach draws on the research methodology in Barakat et al, 2011.

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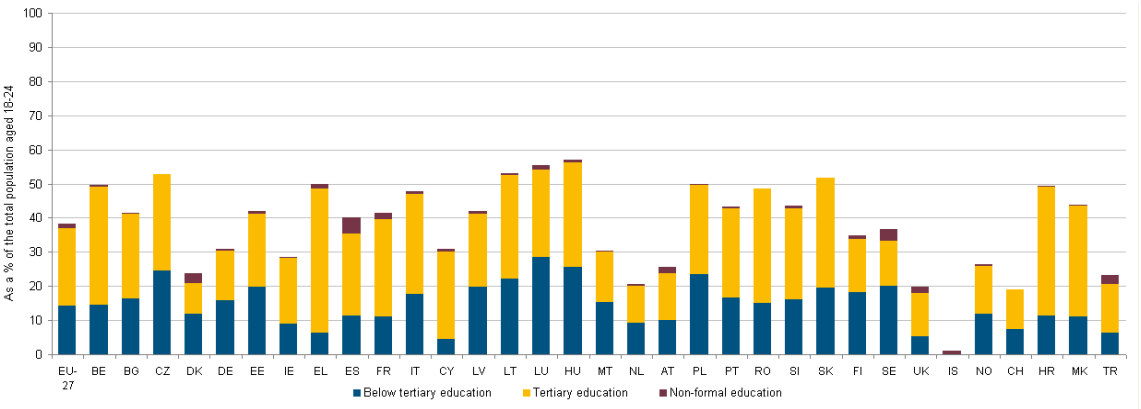
APENDIX 1: MEASURING YOUTH UNEMPLOYMENT

National statistical offices apply different approaches to the definition and measurement of youth unemployment. For example major differences can be found in national systems for education and training and whether there is a job market for students. While in Norway students are included if they are actively seeking work, students are not counted in the unemployment rate calculated by the German Federal Employment Agency. For purposes of comparability of labor market statistics it is important to understand which parts of population are included in national unemployment numbers. Eurostat suggests country groupings according to the overlap between labor market and education; Figure Annex 1.1 gives an overview produced by the statistical office of the European Union for 2009. For example Belgium, Italy and Romania, among others, are part of the group of countries in which very few students are employed or unemployed, suggesting that the young complete their studies before looking for a first job. A very high involvement of students in the labor market is recorded for countries like Denmark, Germany and Austria. Germany does not consider participants in active labor market policies (ALMP) as unemployed but counts them in its statistics of underemployed persons (Bundesagentur fuer Arbeit 2009).

National statistics further differ in the number of hours per week a person has to work to be considered unemployed. While ILO uses a one-hour-per-week rule, German law considers unemployed those persons who are available and seek work, but have worked less than 15 hours per week. National authorities in the Netherlands define people as unemployed if they have worked less than 12 hours per week. The ILO in 2011 indicates that several aspects of unemployment statistics can cause non-comparability across countries, including whether the data source is based on labor force survey questions or on registration at employment offices; age group covered; how trainees and other particular categories of workers are counted and the criteria for deciding what constitutes and active job search.

Figure Annex 1.1 Young people aged 18-24 years being exclusively in education, by level of education attended, 2009



Source: Eurostat (2011b)

O'Higgins (2001) argues that a more useful indicator than the youth unemployment rate is the youth non-employment rate defined on the basis of a widened definition of the

labor force adding to both nominator and denominator young people who are neither in education or employment. In his analysis for selected Organization for Economic Co-Operation and Development (OECD) member countries in 1997 he finds that the "non-employment" rate moves in close relation to the widely available unemployment rate and suggests that therefore the unemployment rate can be used as a proxy for the broader problem of non-employment. Eurostat (2011b) estimates for 2009 that 16 percent of the population aged 18-24 was neither in employment nor in education, a population group now commonly known as NEET. Around eight percent of 18-24-year-olds were considered 'inactive' in Eurostat's 2009 Labor Force Survey, i.e. neither employed nor unemployed. O'Higgins (2003) further highlights the importance of "quality" of youth employment in terms of wage, weight of the informal sector and underemployment; and persistence of youth unemployment.

APENDIX 2: DEVELOPMENTS IN THE DURATION OF YOUTH UNEMPLOYMENT

Incidence of long-term unemployment has been a distinct feature of European labor markets for a long time and increasingly been made the focus of government action recognizing the lasting negative effect of continued spells of unemployment (Machin and Manning 1999). The statistics office of the European Commission refers to long-term unemployment as the number of people who are out of work and have been actively seeking employment for at least a year. As far as the long-term unemployed becoming detached from the labor market, it has been argued that their limited role in competing for jobs makes them less effective in reducing wage pressure, therefore causing high overall unemployment rates. However, Machin and Manning (1999: 24) review literature examining this argument and conclude that "it seems plausible to think that we simply do not have enough variation in the data to separately identify effects of the duration structure and dynamics of unemployment in wage curves." O'Higgins (2003) argues that especially when looking at advanced economies the difference in incidences of long-term unemployment between young and adult persons is small. Available data shows that long-term unemployment is indeed higher as a percentage of the total unemployed for adults from age 25 to 59 (see Table 1).

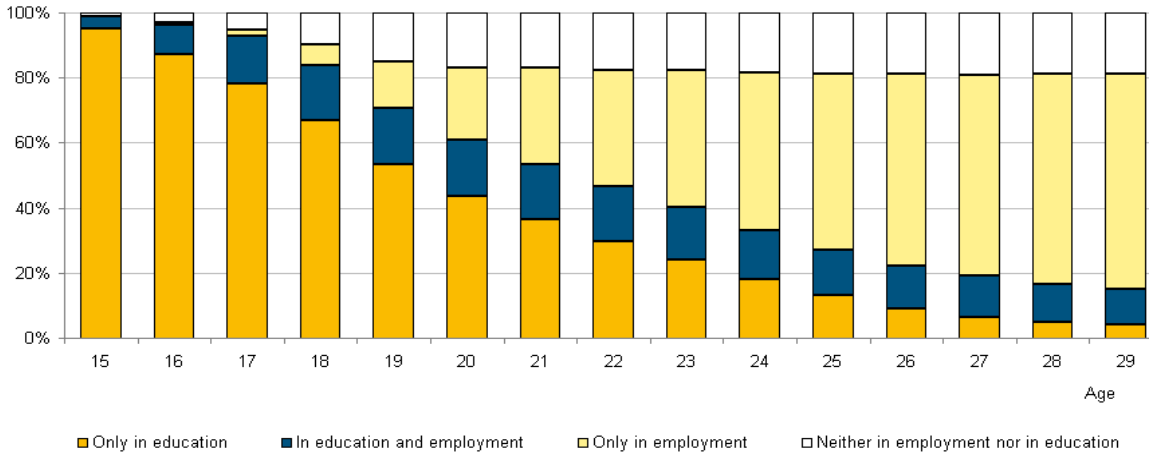
In addressing cross-country differences, one possible argument is that the existence of social security nets in developed countries makes it easier to sustain longer periods of unemployment while looking for quality work. It should be noted that in two-thirds of OECD countries school-leavers are not eligible for unemployment benefits unless they have worked a certain period of time which varies from country to country, from six months in France to one year more generally. They can however receive social assistance in case of social distress from the age of 18 (25 in France, Luxembourg and Spain) (Scarpetta et al. 2010). The Netherlands is an example where unemployed youths under the age of 27 do not receive unemployment benefits but are paid a benefit if they choose further education (The Government of the Netherlands 2013). In the Netherlands a decrease in the sub-minimum wage for youth in the 1980s came with cuts in social security entitlements in order to maintain incentives to work at a lower wage (see Ryan 2001). Many young people, however, refused lower paid employment and relied on

family support while continuing schooling or remaining inactive (ibid.). O'Higgins (2003) explores the absence of social security nets for youth in the case of developing countries. He argues that one explanation for a higher youth-to-adult unemployment ratio in developing countries may be that family support is more likely to enter as provider of last resort for young people than for adults.

APENDIX 3: YOUTH UNEMPLOYMENT AND EDUCATION

Perugini & Signorelli (2008) argue that employment rate indicator presents obvious limitations when referring to young people because levels of education participation determine in part labor force participation rates for this age group. High youth unemployment reduces the opportunity costs of staying in education and a highly developed education and training system can lead to a reduction in the relative level of youth unemployment simply by taking young people out of the labor force, so that they no longer compete with older workers for jobs (O'Higgins 2001), Figure Annex 3.1 shows the participation of 15-29-year-olds in education and employment for 2009.

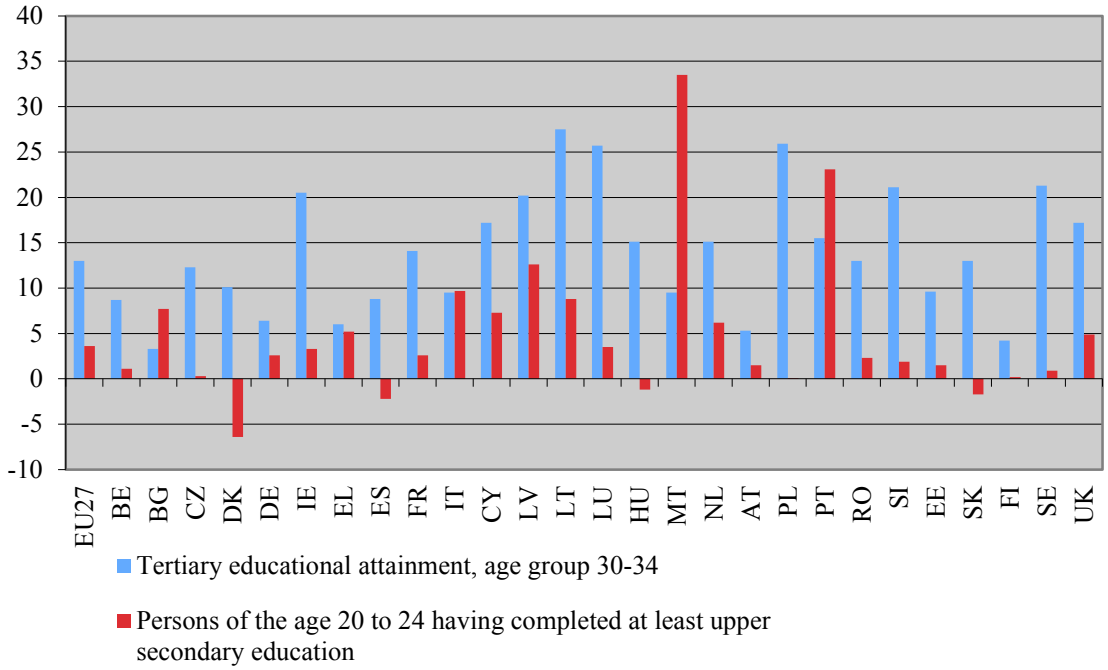
Figure Apendix 3.1 Distribution of the population according to their educational and employment status, by age, EU-27, 2009, %



Source: Eurostat (2011b)

The share of the population that has successfully completed university or university-like education for those aged 30-34 years has increased across the EU-27, on average up from 22.8 percent in the year 2001 to 35.8 percent in 2012. Over the same period, the EU-27 average of the percentage of the population aged 20-24 years having completed at least upper secondary education rose by 3.6 percentage points, albeit with high cross-country variation, ranging from a decrease of 24.9 percentage points in Norway to an increase of 33.5 percentage points in Malta. For Spain the percentage of secondary education completion decreased by 2.2 percentage points (see Figure Annex 3.2 for an overview of percentage change in education attainment in selected EU countries).

Figure Apendix 3.2 Change in Education Attainment for selected EU countries, 2001 – 2012, %



Source: Own calculations based on Eurostat (2013c) and Eurostat (2013d).

While specific education attainment figures display significant variation across the region, it can generally be said that the overall education level of the population has increased for all EU-27 countries. The percentage of people with education levels below lower secondary education has consistently decreased for years and the EU-27 average percentage has gone down by 8.4 percentage points between 2002 and 2012.(Eurostat 2013i) Given the increased educational participation, the employment-population ratio rather than unemployment rates is sometimes considered more meaningful (see O'Higgins 2003).

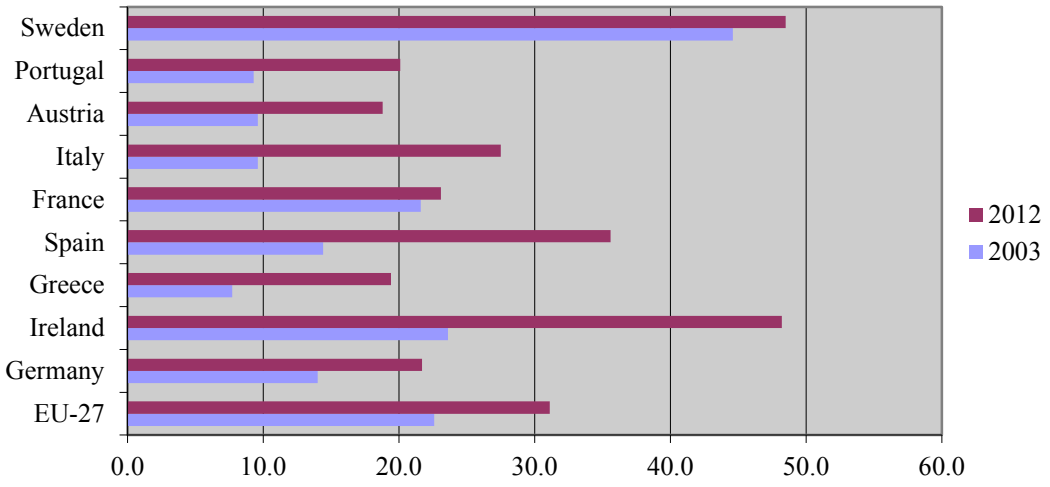
APENDIX 4: YOUTH EMPLOYMENT AND QUALITY OF WORK

The spectrum of youth unemployment also requires consideration of the quality of work available to young people. According to Bell and Blanchflower (2010), UK labor survey data indicates that over 20 percent of those employed in jobs located in the lowest earnings decile are aged 16-24, while only 2.2 percent are employed in the top ten percent of occupations. They conclude from these numbers that most young people enter the labor market in low-paying occupations/industry combinations, in which there has been a modest growth in employment and that the probability of transition to better jobs is reduced as creation of jobs paying around the median wage is falling.

In some countries (e.g. Ireland, Greece, Spain) part-time employment as a percentage of total youth employment more than doubled since 2003, while in others the increase was less pronounced but started from relatively high levels in 2003 (e.g. France and Swe-

den), see Figure Annex 4.1 below. All but one country in the EU-27 reported increases in the share of part-time employment for young people; the exception is Poland where part-time employment has decreased by 3.6 percentage points since 2003 to 16.7 percent in 2012.

Figure Apendix 4.1 Part-time employment as percentage of total employment, 15 to 24 years, %



Source: Eurostat (2013a)

The share of young people working part-time because they are unable to find full-time work can serve as an important indicator towards understanding the realities of employed youth. Involuntary part-time employment is one approximation of forms of unemployment that are not captured in the ILO definition of unemployed persons, other examples are jobless persons seeking jobs but not immediately available for work and jobless persons available for work but not actively seeking it. Starting in 2011 the Commission's statistics office Eurostat released three new indicators to supplement the unemployment rate to "provide a more accurate picture of the labor market" (Eurostat 2011a and 2013j). These additional measures of the labor force highlight situations of insufficient volume of work beyond the scope of the traditional unemployment rate.

APENDIX 5: THE EFFECT OF LABOR MARKET INSTITUTIONS ON YOUTH EMPLOYMENT

The economic downturn is pushing youth, even those who would have performed well in good times, into the group of "poorly-integrated new entrants" and possibly even into the group of "youth left behind" (Scarpetta et al. 2010). This reinforces the pressure for governments to intervene vigorously in the youth labor market.

It has often been argued that employment dynamics depend strictly on labor market institutions, such as unemployment insurance, employment protection, minimum wage among others. This argument refers, broadly speaking, to the capacity of a labor market

to create jobs compatible with full employment and is often discussed in a comparison of European and U.S. approaches to labor market institutions. Such literature uncovers the labor market rigidities as the main driver behind Europe's bad performance when it comes to labor market dynamics (see Bean, 1994 among others).

Scarpetta (1996) states that institutional mechanisms of wage determination and policy variables (such as ALMP) matter for the level of structural unemployment as well as for the speed of labor market adjustments in OECD countries. Overly generous unemployment benefits and stringent employment protection regulations are cited as contributors to raising equilibrium unemployment. Layard et al. (2005) point out that evidence on a decisive impact of employment protection laws on overall rates of unemployment is mixed, at best. Nickell (2011) adds that the stricter the rules governing redundancy as part of employment protection legislation, the slower the rise in unemployment for any given output fall. A high number of employees on short term contracts avoids strict regulation, an example is Spain where nearly a third of all employees are on short term contracts (ibid.).

A number of more recent studies have further questioned the thesis of labor market rigidities as explanation of unemployment. Bell and Blanchflower (2010: 12) ran a pooled cross-country time series analysis on data for eighteen OECD countries for 1975-2002 controlling for union density, strictness of employment protection legislation, gross benefit replacement rates data and the tax wedge. They find only the lagged dependent variable, the log of the unemployment rate, to be significant in any specification and conclude that the "flexibility explanation of unemployment is wrong".

Machin and Manning (1999:12) highlight that no time-series model has managed to explain the rise in unemployment since the 1960s without using "some arbitrary dummy variables or time trends, which account for a large part of the explanatory power", the basic problem being that "labor market institutions have not changed enough to provide a plausible explanation of the rise in unemployment". They point, however, to studies explaining cross-sectional variation in unemployment where the replacement ratio, benefit duration, union coverage and coordination are significant. Bell and Blanchflower (2010) point out that while Western Europe has more job protection, higher unemployment benefits, more union power, and a more generous welfare state it has experienced a smaller rise in unemployment than the United States during the current recession. In a cluster analysis of a sample of countries on regulations such as employment protection, collective bargaining and social protection Sharkh (2008) finds that countries with very flexible labor market legislation do not perform consistently better.

APENDIX 6: DEFINING INFORMAL EMPLOYMENT

One commonly used definition includes the following sub-categories of workers: (a) paid employees in "informal jobs", i.e. jobs without a social security entitlement, paid annual leave or paid sick leave; (b) paid employees in an unregistered enterprise with size class below five employees; (c) own-account workers in an unregistered enterprise with size class below five employees; (d) employers in an unregistered enterprise with

size class below five employees; and (e) contributing family workers, and generally covers work without a written contract (ILO 2013: 17, 36).

Another ILO report (2003: 48-9) distinguishes between employment in the informal sector and informal employment. *Employment in the informal sector* is defined as including all jobs in informal sector enterprises or all persons who, during a given reference period, were employed in at least one informal sector enterprise, irrespective of their status in employment and whether it was their main or a secondary job. Informal employment is defined as the total number of informal jobs, whether carried out in formal sector enterprises, informal sector enterprises, or households, or as the total number of persons engaged in informal jobs during a given reference period. Using one or the other measure depends on whether the number of jobs or persons are used as measurement unit. People often hold multiple formal/informal jobs. Informal employment is widely defined as the production and sale of goods and services that are licit in every sense other than that they are unregistered by or hidden from, the state for tax, benefit and/or labor law purposes. As such, informal employment possesses only one absence or insufficiency and this is that it is not declared to the state for tax, social security and labor law purposes. If other absences or insufficiencies are present, such as that the goods and services are illegal or that the exchange is not monetized, then these activities are not defined as 'informal employment' but instead as 'criminal activity' and 'unpaid work' respectively.

In 2003 the International Conference of Labor Statisticians developed guidelines for a new conceptual framework related to informality in employment, adopting the concept of informal employment defined as the sum of employment in the informal sector (i.e. informal enterprises) and informal employment found outside the informal sector (ILO 2012). ILO's Department of Statistics has since been providing technical assistance to countries to include the new statistical measure in their national survey questionnaires and presents data compiled for 47 developing countries in its 2012 statistical update on the issue. Data by age or specifically for youth is not available.

Another term sometimes used is shadow economy, which generally includes legal business activities, performed outside the reach of government authorities, which include undeclared work and under reporting. Other illegal activities (drug trade) and household employment are generally not considered in the shadow economy (Evans et al. 2006; Williams and Windebank 2002, Williams 2009).

Many countries apply some measurement for the size of the non-observed economy in their national accounts. In 2008 the United Nations Economic Commission for Europe (UNECE) published results of a survey on current practices to ensure exhaustive estimates of the GDP in forty-three countries (UNECE 2008: 5). Non-observed economy is defined as "all productive activities that may not be captured in the basic data sources used for national account compilation" and includes illegal activities, deficiencies in data collection, informal activities that are not registered or recorded, and misreporting of production. Countries use a variety of methods to estimate GDP generated through such activities based on different approaches to their measurement and it is thus not surprising that comparisons between countries or over time are difficult. Where thorough and systematic approaches are in place (Finland, Germany, Ireland, United King-

dom, United States, among others) studies are often carried out only infrequently. More importantly the non-observed economy data collection aims to estimate the size of non-observed economy in GDP estimates and do not usually offer insight in specific characteristics of activities accounted for.

Following the international statistical definition of informal employment discussed above, significant progress has been made towards a more consistent measurement of informal employment. According to the *International Labor Organization* the informal economy comprises half to three quarters of all non-agricultural employment in developing countries. Their *Global Employment Trends for Youth* ILO (2013) looks at a sample of ten developing countries and finds that eight out of ten young workers are in informal employment. Data from school-to-work transition surveys reveal that in 2012 in the Russian Federation 50.9 percent of all young workers were employed informally, 48.4 percent in Macedonia and 64.2 percent in Armenia. The ILO (2013) identifies the "irregular nature of employment among youth" in developing countries as one of the labor market characteristics that contrasts most with youth in developed countries. It has to be noted, however, that data on informal employment among youth is rarely available for developed countries. The ten countries covered in ILO's new School-to-Work-Survey applied between 2004 and 2006 are developing nations.

APENDIX 7: METHODS OF MEASURING THE INFORMAL ECONOMY

Williams and Windebank (2003) offer a discussion of approaches to approximate informal employment. Indirect non-monetary methods seek to identify the informal labor force in formal labor statistics, e.g. the analysis of discrepancies between employment statistics, an example is the comparison of U.S. data provided by the Census Bureau's Current Population Survey with the Bureau of Labor Statistics survey of firms. The difference of those declaring themselves as job-holders in the Current Population Survey and the number on the payrolls reported by the Bureau of Labor Statistics is taken as the number employed informally. Williams and Windebank (2003) identify as problems with this approach the fact that each individual is assumed to be either an informal or formal employee, thus missing those that work in the formal *and* informal economy. Also this approach only looks at business, which means that all those engaging in jobs for households on a self-employed basis are not included. There is further no reason to assume that an informal worker will indeed describe themselves as employed in a household survey when the employer will not.

As another non-monetary proxy the very small enterprise approach is presented. Based on the assumption that in advanced economies informal employment is more likely to occur in smaller businesses, this approach has been employed by the U.S. Department of Labor whose interviews revealed that violations of the labor-code are especially widespread in sectors that are more prone to smaller enterprises (such as sub-contractors for garment, electronics, restaurant and meat processing industries). Obviously not all small businesses engage in informal employment, and some that are fully informal will not show up at all in government-records. There is significant room for under- or over-estimation of informal employment using the very small enterprise approach.

Indirect monetary approaches to approximate the extent of informal employment have been attempted, for example by taking the number of high-denomination bank notes in circulation as an indicator or using as a proxy the difference between estimates for currency in circulation required for legal operations and its actual numbers. This method fails to capture transactions that do not use cash and does not account for currency that is held outside a country's borders. These methods all fall short to provide an accurate measure of informal employment, let alone its characteristics (Williams and Windebank 2003).

APENDIX 8: DEFINITIONS OF INFORMAL EMPLOYMENT AND THE INFORMAL SECTOR

INFORMAL ENTERPRISES
Legal organization of the enterprise Informal enterprises are private unincorporated enterprises for which no consistent set of accounts are available that would allow the financial activities of the enterprises to be clearly separated from those of the household.
Market production A portion of the goods or services produced by the informal enterprise must be sold or bartered in market transactions.
Size and/or registration Informal enterprises are frequently defined in terms of the number of paid employees, i.e. in informal enterprises the number of employees falls below a given threshold. Alternatively, informal enterprises may be defined in terms of their registration status with respect to national regulatory frameworks and legislation.
INFORMAL EMPLOYMENT
Paid employees in informal jobs Employment relationship is, in law or in practice, not subject to national labor legislation, income taxation, social protections or entitlement to certain employment benefits (advance notice of dismissal, severance pay, pair annual or sick leave, etc.1). Comprised of employees holding such jobs in formal sector enterprises, in informal enterprises, or as paid domestic workers employed by households. Also included are those workers in wage and salary jobs that lack basic legal and/or social protections, and/or in employment relationships not subjected to national labor regulation or taxation.
Informal own account workers, employers, and members of producer cooperatives Own account workers, employers, and members of producer cooperatives are engaged in informal employment if the enterprise in which they work is informal.

Contributing family workers The 17th International Conference of Labor Statisticians recommended that all contributing family workers are classified as being engaged in informal employment.
Own account workers producing goods for own-use Own account workers producing goods for their households' own final use are defined as working informally if they are also classified as employed in national surveys.

Source: Carre and Heintz (2013)

APENDIX 9: GERMAN ACTIVE LABOR MARKET POLICIES

German Active Labor Market Policies	
Abbreviation	**Description**
JS	Job search monitoring and the assessment of the career opportunities of the individual
SST	Short-term training programs to improve auxiliary skills that help in the job application process. Very short duration.
JCS	Job Creation Schemes. Provides youths with practical work experience
FT	Further Training for youths with vocational qualification who require additional qualifications. Classroom training
WS	Wage subsidy for 1 year for 50% of the wage
JWS	Wage subsidy for either 1 year for 60% of the wage or 2 years for 40% of the wage
PT	Practical training. Subsidized internship to overcome barrier of transitioning from general education to vocational schooling

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